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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/563,185	08/07/2006	Michael H. Script	2199-7PCT-US	4052

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EXAMINER	
MULLEN, THOMAS J	

ART UNIT	PAPER NUMBER
2612	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/563,185	SCRIPT ET AL.	
	Examiner	Art Unit	
	/Thomas J. Mullen/	2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 July 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *76-90* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *76,77 and 79-90* is/are rejected.

7)☒ Claim(s) *78* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1. The amendment filed 7/22/08 has been fully considered.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claim 87 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 87 as amended recites that the "device" (i.e., the "movement detecting device" of claim 76, line 1) is "activated or deactivated" by the "sensor" detecting movement; however, claim 76 recites (line 1) that the "device" comprises the "sensor". It is unclear how the overall "device" can be activated or deactivated by one of its own elements (i.e., the "sensor"); put another way, if the overall "device" is in a "deactivated" state, it would appear that the "sensor" would also have to be in a "deactivated" state, and thus incapable of activating or deactivating some other element.

4. Claims 76-77 and 87-88 are rejected under 35 U.S.C. 102(b) as being anticipated by either Twigg (US 5524489) or Okada (US 5406848).

As to claim 76:

Twigg (Figs. 1-5 and 10-11) discloses a movement detecting device, note accelerometer or "inertial" sensor (40,46,50,62--best shown in Fig. 10) adapted to sense "multidirectional movement" (i.e. either along 2 axes, Figs. 1-5, or along 3 axes, Fig. 10), and control circuitry (Figs. 1 and 11) for "distinguishing between opposing directions of movement" sensed by the sensor "along a single axis of motion" (note the distinction between "left" and "right" movement, in the "lateral" portion of the display 80 in Fig. 11, where "lateral" refers to movement of a vehicle in a lateral direction--col. 6, lines 56-60).

Okada (Figs. 1-7) discloses a movement detecting device, note accelerometer or "inertial" sensor (10-11,20-24--Figs. 1-3) adapted to sense "multidirectional movement" (i.e. along 3 axes--note Fig. 6 and col. 10, lines 22-24), and control circuitry (Fig. 7) for

"distinguishing between opposing directions of movement" sensed by the sensor "along a single axis of motion" (i.e., any of the X, Y, or Z axis--see col. 12, lines 5-42).

As to claim 77:

In Twigg, as shown in Figs. 1-5 and 11 there are "sensors" (50a,b,etc.) constituting at least a "first circuit" and a "second circuit" as claimed.

In Okada, electrodes 21-24 (Fig. 3) in combination with electrode 11 (Figs. 1-2) define "first" through "fourth" circuits, respectively, denoted in Fig. 7 by (C1,51), (C2,52), etc., as claimed.

As to claim 87:

In either Twigg or Okada, the "device" (i.e., at least some portion thereof) is inherently "activated or deactivated" by (i.e. responsive to) the "sensor" detecting inertial movement, i.e. responsive to the "sensor" outputs in Fig. 11 of Twigg or in Fig. 7 of Okada.

As to claim 88:

In either Twigg or Okada, the "device" is inherently adapted to generate an output (i.e., at the "sensor" outputs in Fig. 11 of Twigg or in Fig. 7 of Okada) in response to the "sensor" detecting inertial movement.

5. Claims 82 and 84 are rejected under 35 U.S.C. 102(b) as being anticipated by Twigg.

As to claim 82, Twigg further teaches (col. 2, lines 22-25) that the "sensors" (50a,b,etc.) may be "physically compressive (piezoelectric) based sensors", where elastic members (40a,b,etc.) serve as "piezoelectric elements" which are flexed by "mass" 62 (as best shown in Fig. 10).

As to claim 84, Twigg teaches a "piezoelectric element" as discussed above, and further teaches preventing friction between mass 62 and elastic members (40a,b,etc.) by using a "vacuum" (col. 3, lines 41-43)--i.e., Twigg implicitly teaches at least a "partial vacuum environment".

6. Claim 85 is rejected under 35 U.S.C. 103(a) as being unpatentable over Twigg.

See the discussion of claim 84 in para. 4 above. Although Twigg does not specify the nature of the "compartment" formed by the structure of Fig. 10 (which includes a "planar

supporting surface" 60--col. 3, lines 21-22), since Twigg teaches creating at least a "partial vacuum environment" as discussed above (or alternatively, that "the entire assembly can be encapsulated in a light, substantially transparent oil"--col. 6, lines 1-2) it would have been obvious to make the "compartment" defined by surface 60 and the outer frame members shown in Fig. 10 an "airtight compartment", so as to maintain the desired "vacuum", avoid leakage of the "oil", etc., in the various embodiments taught by Twigg.

7. Claim 79 is rejected under 35 U.S.C. 103(a) as being unpatentable over either Twigg or Okada, further in view of Saab (US 5736923, previously cited).

Note in Saab, inertial measurement unit (IMU) 3, comprising inertial sensors 5-7 (col. 4, lines 4-5) orthogonally oriented with respect to each other (col. 4, lines 14-16), and respectively corresponding to an "x-axis", a "y-axis" and a "z-axis" (col. 4, lines 17-22), and control circuitry (primarily computer 4 in Fig. 1), wherein sensors 5-7 collectively form an "inertial" sensor for detecting movement of the object 2. Saab further teaches that the sensor may be a "gyroscope" sensor (note the Abstract, lines 11-12; col. 3, lines 42-43; etc.).

In view of Saab it would have been obvious to use a "gyroscope" sensor as the accelerometer sensors in either Twigg or Okada, since those skilled in the art would have recognized the ready availability, low cost and required sensitivity of this type of sensor, as well as its applicability to the type of system disclosed by Twigg or Okada.

8. Claim 80 is rejected under 35 U.S.C. 103(a) as being unpatentable over either Twigg or Okada, further in view of Dutta (US 2003/76408, previously cited).

Note in Dutta, object 100 (Fig. 1); motion sensor assembly 302 (Fig. 3) comprising motion sensors (314X,314Y,314Z), respectively corresponding to "X", "Y" and "Z" directions (para. 0020, last 6 lines); and control circuitry 304 ("processing engine" or "central processing unit", para. 0021), wherein sensors 314 (X,Y,Z) form an "inertial" sensor for detecting movement of the object 100. Dutta further teaches that the sensor may be a "MEMS accelerometer" sensor (para. 0020, lines 6-7).

In view of Dutta it would have been obvious to use a "MEMS accelerometer" sensor as the accelerometer sensors in either Twigg or Okada, since those skilled in the art would have

recognized the ready availability, low cost and required sensitivity of this type of sensor, as well as its applicability to the type of system disclosed by Twigg or Okada.

9. Claim 81 is rejected under 35 U.S.C. 103(a) as being unpatentable over either Twigg or Okada, further in view of either Campman (US 5317305, previously cited) or Cameron et al (US 5811910, previously cited).

Note in Campman (Fig. 12, the Abstract, and col. 7, line 46 to col. 9, line 2), piezoelectric element 74; "flexible" diaphragm 70,76 (col. 8, lines 42-43 and 50-51); and mass 72.

Note in Cameron et al, piezoelectric element 25; "flexible" diaphragm 20 (col. 2, line 5); and mass 40.

The piezoelectric elements in each of Campman (74) and Cameron et al (25) are in the form of a piezoelectric "film".

In view of either Campman or Cameron et al it would have been obvious to use a "piezo film" sensor as the accelerometer sensors in either Twigg or Okada, since those skilled in the art would have recognized the ready availability, low cost and required sensitivity of this type of sensor, as well as its applicability to the type of system disclosed by Twigg or Okada.

10. Claims 89-90 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Twigg or Okada, further in view of Lemelson (US 4337462, previously cited).

Note in Lemelson, accelerometers 16-18 (Fig. 2), respectively corresponding to "X", "Y" and "Z" directions (col. 2, lines 31-33), and control circuitry (primarily computer 24 in Fig. 2), wherein accelerometers 16-18 form an "inertial" sensor for detecting movement of the object 11.

As to claim 89, as shown in Fig. 2 the inertial sensor (16-18) is "disposed in a movement detecting and signal transmitting device" (note transmitter 28 and antenna 14 in Fig. 2) adapted to transmit a wireless RF signal (i.e. a "short wave" signal, col. 2, last 2 lines, to a "receiver" as shown in Fig. 3) in response to the sensor detecting inertial movement.

As to claim 90, Lemelson's inertial sensor (16-18) is "disposed in a...security system" (note "theft detection system", Title), which is inherently "portable" in that the operative components of the sensor/security system (Fig. 2) are physically combined in some manner with an article (which may include "portable" articles) capable of being transported or stolen (note

col. 2, lines 16-21), and is adapted to forward a "security alert" to an "endpoint" (e.g., alarm 31 or the remote receiver of Fig. 3) in response to the sensor detecting inertial movement.

In view of Lemelson it would have been obvious to use the sensor outputs of either Twigg or Okada (discussed above) to transmit a wireless RF signal as in claim 89, or to forward a security alert to an "endpoint" as in claim 90, since at the time of the invention it was well known in the art to use inertial sensor outputs such as taught by Twigg or Okada to communicate detected conditions (which are indicated by the sensor outputs) over a variety of channels (such as RF) for a variety of purposes (such as security), as claimed.

11. Claims 76-77 and 81-89 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-4 and 6-8 of U.S. Patent No. 6,940,405 in view of either Twigg or Okada.

Claim 1 in the '405 patent recites in part, "(a) portable security alarm system...comprising a movement detecting...means..., said movement detecting...means comprising an inertial sensor disposed within a vacuum environment". Thus, claim 1 of the '405 patent recites a movement detecting device comprising an inertial sensor, plus other elements. Claim 1 of the '405 patent fails to specify that the inertial sensor "sense(s) multidirectional movement", or that associated control circuitry "distinguishes a direction of movement" sensed by the sensor, as recited in claim 76 herein. However, these concepts are well known in the art, note the teachings of Twigg or Okada as discussed in paragraph 4 above. Therefore, it would have been obvious to use "a movement detecting device comprising an inertial sensor" in the manner recited in claim 76 herein, since one skilled in the art would have recognized that such use would make the sensor applicable to a wide variety of particular sensing environments and/or conditions.

As to claim 77 herein, either Twigg or Okada further teaches "first" and "second" circuits as discussed in paragraph 4 above. Claim 81 herein corresponds to claim 2 in the '405 patent. As to claim 82 herein, claim 5 in the '405 patent is similar to claim 1 therein, further specifying that the inertial sensor comprises a "piezoelectric...transducer" having a "piezoelectric element" and a "mass" (both attached to a "diaphragm"); it appears to be inherent in the structure recited in claim 5 in the '405 patent that the mass is "operatively attached to flex (the) piezoelectric element". Claim 83 herein corresponds to claim 8 in the '405 patent. As to claim 84 herein,

claim 3 in the '405 patent (depending from claim 1 therein) further specifies that the sensor includes a "piezoelectric element", and claim 1 in the '405 patent recites the "vacuum environment". Claim 85 herein corresponds to claim 4 in the '405 patent. Claim 86 herein corresponds to claim 6 in the '405 patent. As to claims 87-88 herein, the "portable security alarm system" of claim 1 in the '405 patent may be construed as a "device" (or "movement detecting device") that is "activated or deactivated" (to "generate an output") by the sensor detecting inertial movement. As to claim 89 herein, the "portable security alarm system" of claim 1 in the '405 patent may be construed as a "movement detecting and signal transmitting device" for transmitting a wireless RF signal (note "wirelessly transmitting a predetermined signal") in response to the sensor detecting inertial movement.

12. No rejection(s) under 35 U.S.C. 102/103 of claims 78, 83 and 86 is/are considered appropriate at this time.

13. This Office action is non-final.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas J. Mullen, Jr. whose telephone number is 571-272-2965. The examiner can normally be reached on Monday-Thursday from 6:30 AM to 4 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Wu, can be reached on (571) 272-2964. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Thomas J. Mullen/
Primary Examiner, Art Unit 2612